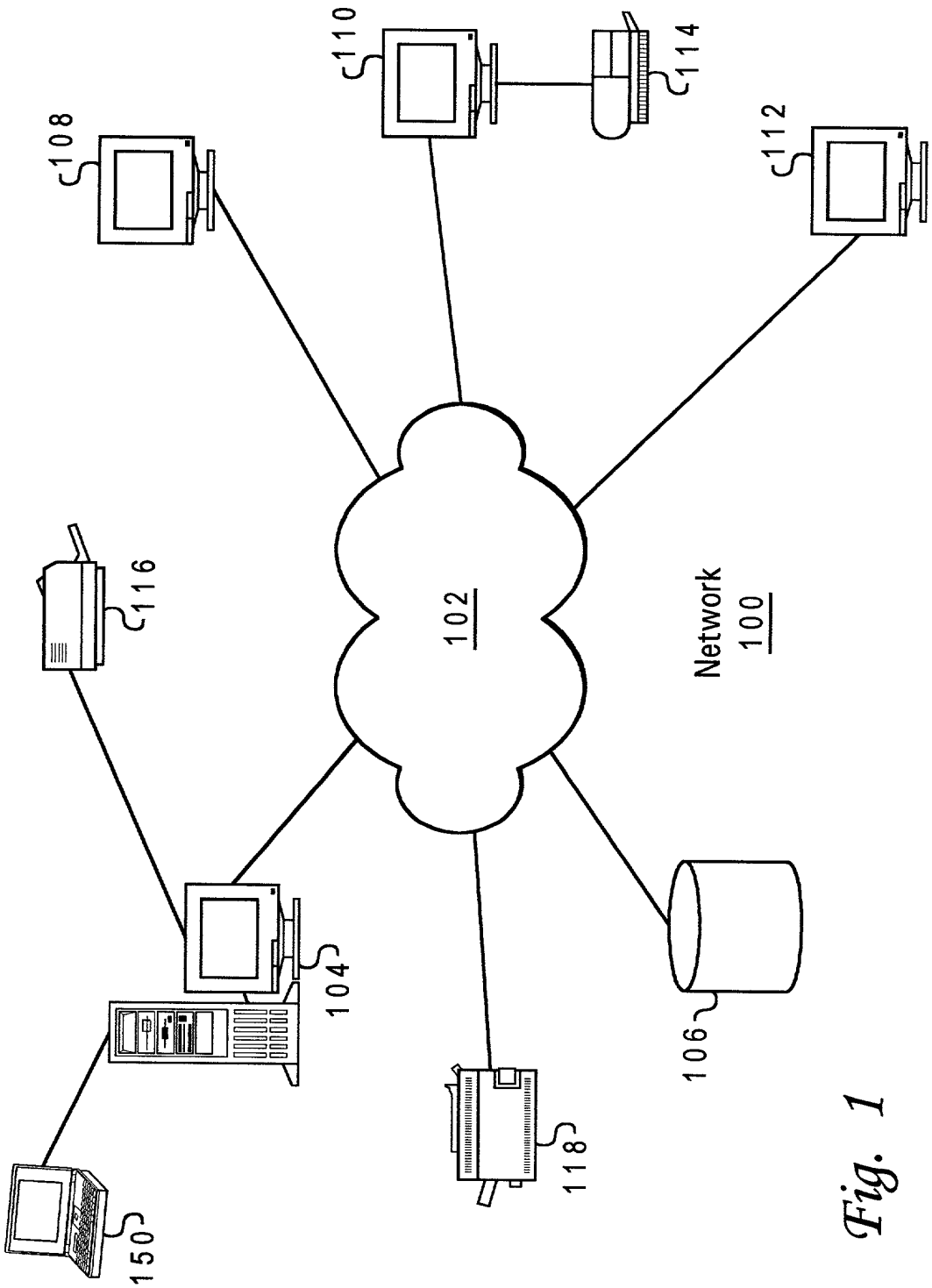


Fig. 1

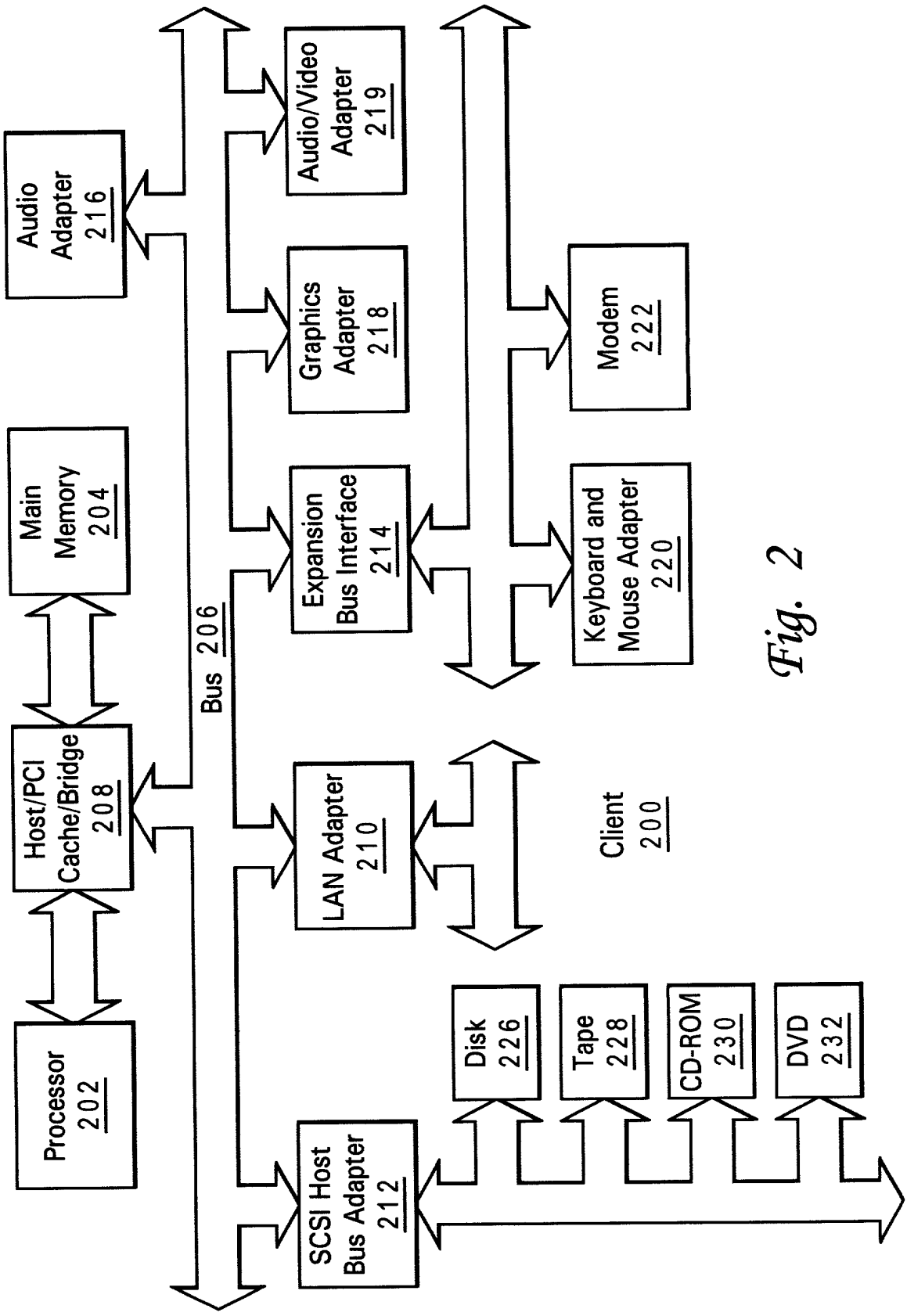

Audio Adapter 216
Audio/Video Adapter 219
Graphics Adapter 218
Modem 222
Main Memory 204
Expansion Bus Interface 214
Keyboard and Mouse Adapter 220
Bus 206
Host/PCI Cache/Bridge 208
LAN Adapter 210
Client 200
Processor 202
Disk 226
Tape 228
CD-ROM 230
DVD 232
SCSI Host Bus Adapter 212

Fig. 2

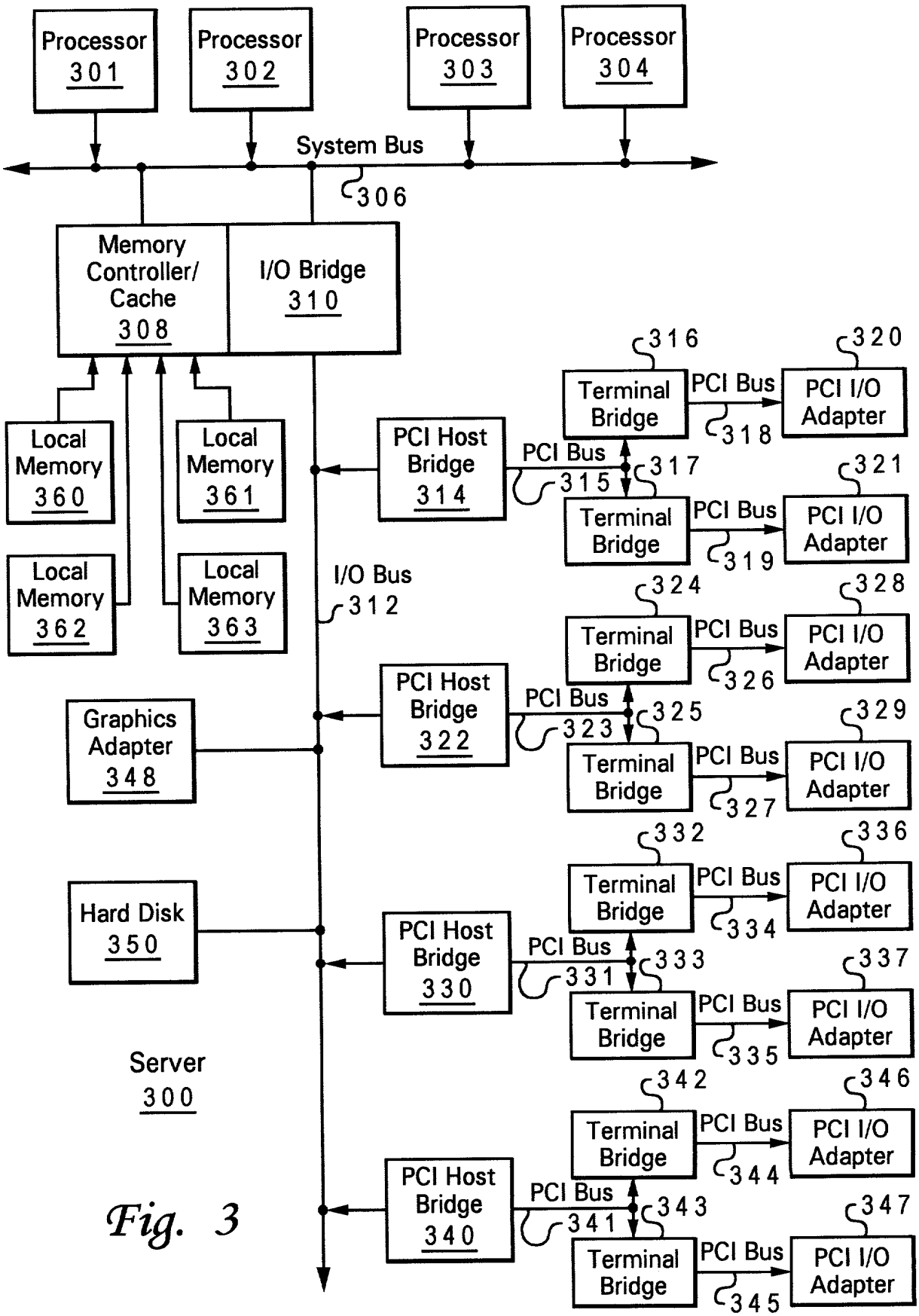


Fig. 3

9/6/04, EAST Version: 1.4.1

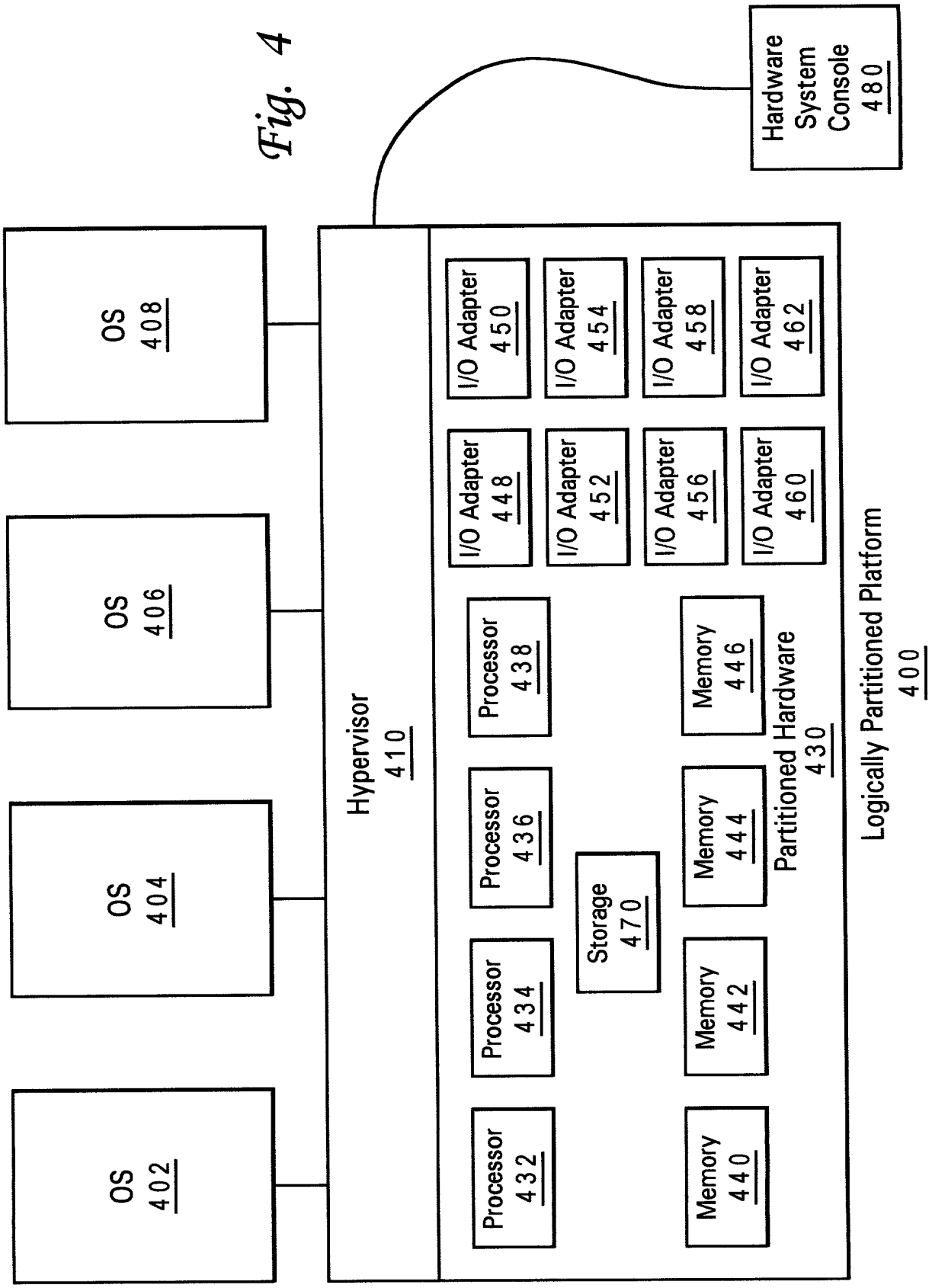

OS 402
OS 404
OS 406
OS 408
Hypervisor 410
Hardware System Console 480
Logically Partitioned Platform 400
Partitioned Hardware 430
Processor 432
Processor 434
Processor 436
Processor 438
Memory 440
Memory 442
Memory 444
Memory 446
Storage 470
I/O Adapter 448
I/O Adapter 450
I/O Adapter 452
I/O Adapter 454
I/O Adapter 456
I/O Adapter 458
I/O Adapter 460
I/O Adapter 462

Fig. 4

IOA 1	I/O bus DMA address 1-4
IOA 2	I/O bus DMA address 5-8
IOA 3	I/O bus DMA address 9-12

I/O Bus DMA Address Range Table
500

Fig. 5A

OS 1	IOA 1 IOA 3 Mem 1-20
OS 2	IOA 2 Mem 21-40

Allocation Table
520

Fig. 5B

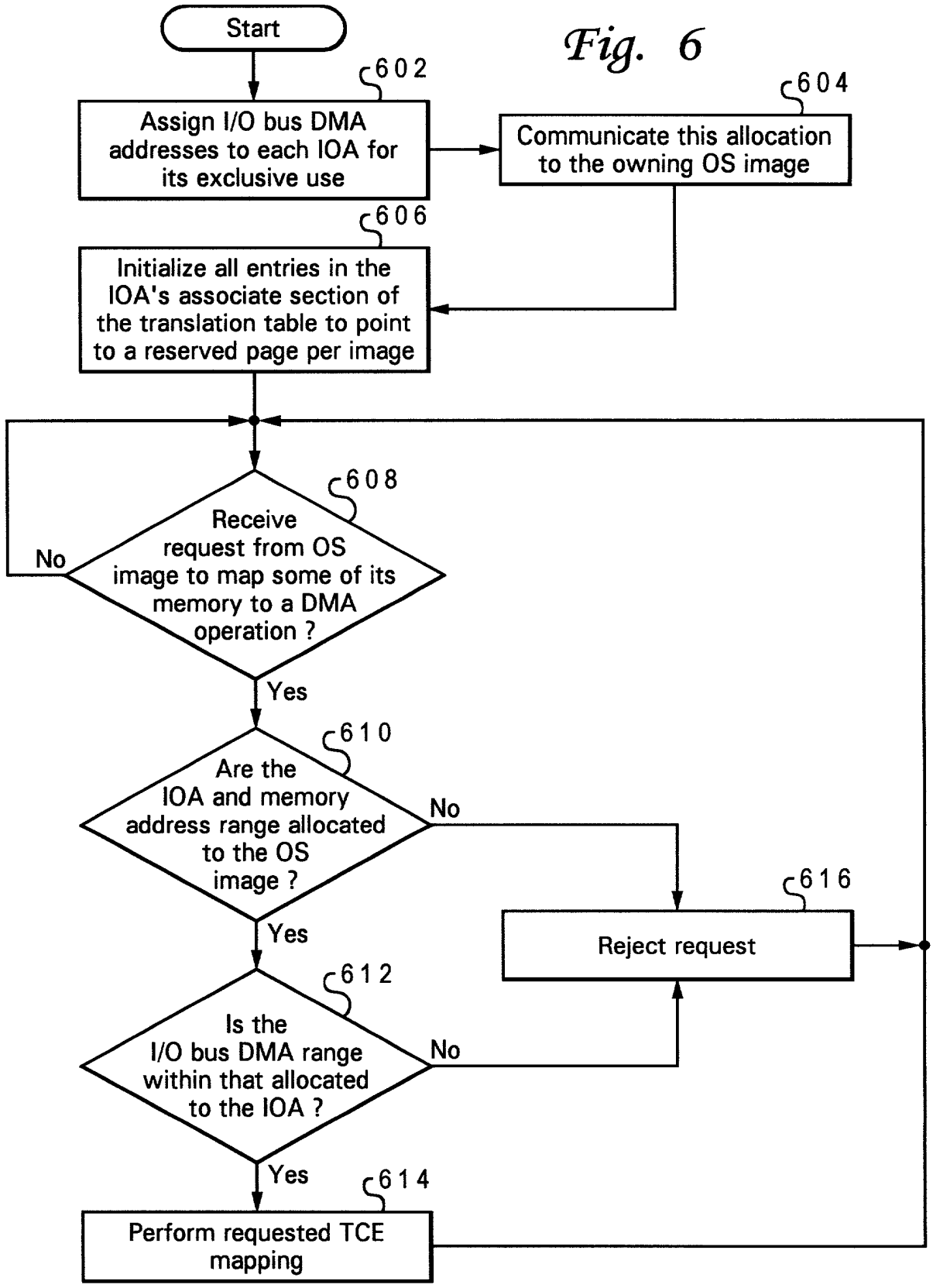
Mem 5-8	I/O bus DMA addresses 1-4
Mem 11-13	I/O bus DMA addresses 9-11
Mem 25-26	I/O bus DMA addresses 5-6

TCE Table
550

Fig. 5C

Docket No. AUS920000447US1

Fig. 6


Start
602
Assign I/O bus DMA addresses to each IOA for its exclusive use
604
Communicate this allocation to the owning OS image
606
Initialize all entries in the IOA's associate section of the translation table to point to a reserved page per image
608
Receive request from OS image to map some of its memory to a DMA operation ?
No
Yes
610
Are the IOA and memory address range allocated to the OS image ?
No
Yes
612
Is the I/O bus DMA range within that allocated to the IOA ?
No
Yes
614
Perform requested TCE mapping
616
Reject request

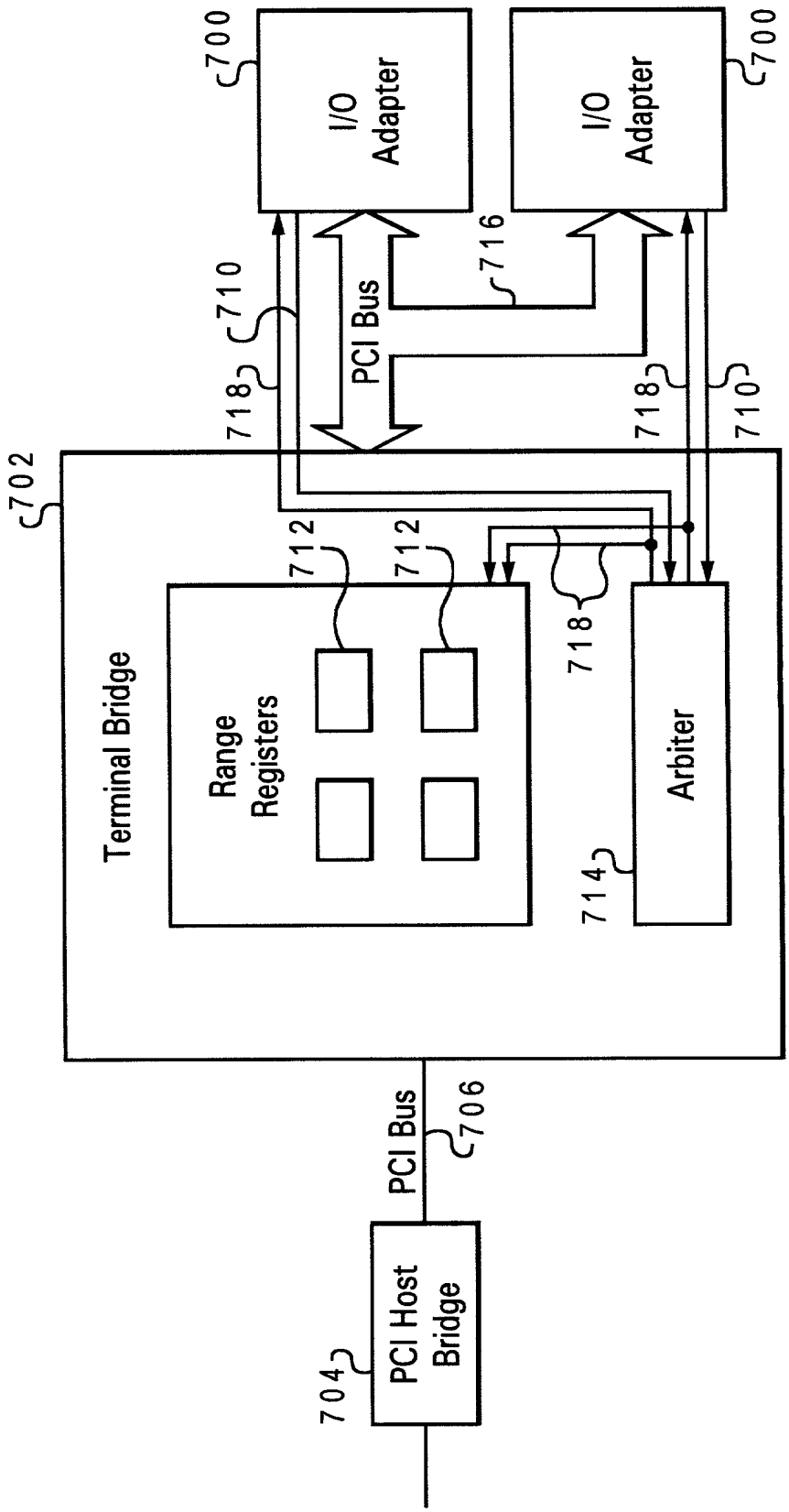

700
I/O Adapter
700
I/O Adapter
716
710
PCI Bus
718
718
710
702
712
712
718
Terminal Bridge
Range Registers
Arbiter
714
PCI Bus
706
PCI Host Bridge
704

Fig. 7